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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,133	03/13/2006	Horst Hendel	21334-1441	2317
29450 7590 03/26/2007 BARLEY SNYDER, LLC 1000 WESTLAKES DRIVE, SUITE 275 BERWYN, PA 19312			EXAMINER MAI, ANH T	
			ART UNIT	PAPER NUMBER
			2832	
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		03/26/2007	ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/26/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	Application No. 10/528,133	Applicant(s) HENDEL, HORST	
	Examiner Anh T. Mai	Art Unit 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) *   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) *<br>Paper No(s)/Mail Date <u>3/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-4, 7-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al. [20020014940] in view of Sexton [6094122]

Kondo discloses:

- at least one primary winding 5 and at least one secondary winding 3, a high voltage being induced in the secondary winding when current flows in the primary winding;
- a magnetic core 1 which is surrounded at least in part by the primary winding and the secondary winding, one of the windings additionally being surrounded at least in part by the other,
- at least one of the windings comprises at least one portion having a winding density that is greater than the remaining winding density, a diameter of innermost turns being smaller in the at least one portion [center part 3b] than a diameter of the innermost turns in the remaining winding portions [outer part 3c];
- the secondary winding is so arranged relative to the primary winding that each portion having elevated winding density on one winding corresponds to a portion with the remaining winding density on the other winding in the axial direction [see figure 2];

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- the primary winding 5 surrounds the secondary winding 3 and the at least one portion having elevated winding density is an initial and/or final portion of the primary winding and the secondary winding is arranged in the remaining winding portion of the primary winding;
- the secondary winding further comprises a pre-winding 3b and/or final winding having reduced winding density, which is surrounded by the initial and/or final portion of the primary winding 5;
- the secondary winding is divided into a plurality of individual segments as shown in figure 2 and the coil heights of individual segments are configured to decrease in manner of cascade;
- at least one portion having elevated winding density is arranged eccentrically with respect to the center line of the ignition coil;

Kondo discloses the invention as claimed as cited above except for the core being ferromagnetic.

Sexton discloses an ignition assembly wherein a central ferromagnetic core 64 [abstract]. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use ferromagnetic core as taught by Sexton to the ignition coil as disclosed by Kondo. The motivation would have been to utilize alternative materials that are available to perform the magnetic/electrical requirement for the device.

With respect to limitation "*high voltage is induced in secondary winding when current flows in the primary windings*", has been considered but not given any patentable weight because it is an inherent operational characteristics derived from the structure of ignition coil.

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2. Claims 5-6, 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al. [20020014940] in view of Sexton as applied in claim 1 above and further in view of Perrier et al. [4099510].

Kondo in view of Sexton discloses the invention as claimed as cited above except for the winding being flat. Perrier discloses an ignition coil wherein flat winding is used to decrease parasitic capacitance of the winding [col 2, lines 66-68]. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use flat winding as taught by Perrier to the ignition coil as disclosed by Kondo in view of Sexton for the reason above. Therefore, it would have been obvious to combine Perrier with Kondo and further in view of Sexton.

With respect to claims 6 and 16, Kondo discloses side core 7 surrounding the windings and the core.

With respect to claim 17, Kondo secondary winding is divided into a plurality of individual segments [figure 2].

With respect to claim 18, the coil heights of the individual segments are configured to decrease in the manner of a cascade.

With respect to claim 19, the at least one portion having greater winding density is arranged eccentrically with respect to the center line of the ignition coil.

With respect to claim 20, the initial portion and the final portion of the primary coil are arranged offset eccentrically substantially by 180° with respect to the centerline of the ignition coil.

*Conclusion*

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 Form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh T. Mai whose telephone number is 571-272-1995. The examiner can normally be reached on 5/4/9 Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Anh T. Mai  
Primary Examiner  
Art Unit 2832

